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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,821	06/28/2001	Jonathan W. Haines	S01.12-0711/STL 9608	4141
7590	12/11/2003		EXAMINER	
Joseph R. Kelly WESTMAN CHAMPLIN & KELLY International Centre - Suite 1600 900 South Second Avenue Minneapolis, MN 55402-3319			PORTKA, GARY J	
			ART UNIT	PAPER NUMBER
			2188	
DATE MAILED: 12/11/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/894,821	HAINES ET AL.	
	Examiner Gary J Portka	Art Unit 2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 28 June 2001.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1,2,9 and 20 is/are rejected.

7) Claim(s) 3-8 and 10-19 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 26 February 2002 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

1. Claims 1-20 are presented for examination.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on May 13, 2002 (paper no. 7) was considered by the examiner.

Drawings

3. The drawings are objected to because in Figure 3 the label "220" should be added for clarity (see Page 8 lines 11-13). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 9, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krantz et al., U.S Patent 6,530,000 B1, in view of Berning et al., U.S. Patent 6,038,619.

6. As to claims 1, 9, and 20, Krantz discloses a system, method, and means as recited, including arbitrated buffer memory (118, Figs. 1-4), and traversal component configured to receive a requested traversal, arbitrate for ownership, and traverse buffer entries thereof prior to de-arbitrating. See Krantz Abstract, Figs. 1-4, col. 1 lines 55-60,

col. 2 lines 5-8, and col. 5 lines 1-20. Krantz does not explicitly disclose that sequentially mapped entries are traversed. However, Berning teaches an analogous disk buffer control which when requests for sequential entries are detected allows the requester to continue to stream data unabated through the buffer. See Berning Abstract, col. 3 lines 25-40. This is desirable because it improves overall data throughput of the buffer. See Berning col. 2 lines 64-67 and col. 3 lines 8-24. The teaching of allowing the traversal of sequential entries unabated as applied to Krantz is clearly equal to the recited traversal of entries prior to de-arbitrating. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to traverse sequentially mapped entries prior to de-arbitrating, because this was a known means of improving buffer throughput.

7. As to claim 2, the Krantz-Berning prior art combination described above sequentially accesses as evidenced by the above; storing in an accessing memory is also disclosed since a read for example in Berning will be stored to one of the FIFOs connected to the buffer data bus of Fig. 3.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krantz et al., U.S Patent 6,530,000 B1, in view of Berning et al., U.S. Patent 6,038,619, and further in view of Tamura, U.S. Patent 6,389,508 B1.

9. As to claim 10, neither Krantz nor Berning disclose the receipt of starting address and number of locations. However, this is a well known implementation of accessing a disk and its associated buffer in for example a write command, see Tamura col 1 lines 21-27. An artisan would have been motivated by compatibility with systems using such

commands to implement this capability in the systems of Krantz and/or Berning. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to receive starting address and number of locations, because this was a known method of accessing disks and their buffers.

Allowable Subject Matter

10. Claims 3-8 and 11-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent No.

5,937,427 Judging if consecutive writes to disk are sequential.

5,878,280 Buffer which accumulates data bursts into segments for disk.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary J Portka whose telephone number is (703) 305-4033. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (703) 306-2903. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-3900.

Gary J Portka
Primary Examiner
Art Unit 2188

December 9, 2003

